

(G) WFI / DERWENT

- AN - 1997-285197 [26]
- AP - JP19960016825 19960201
- PR - JP19950195461 19950731
- TI - Blue light-emitting polymer for light-emitting diode - containing phenylene, conjugated unsaturated groups and trialkylsilane substituted phenylene groups
- IW - BLUE POLYMER DIODE CONTAIN PHENYLENE CONJUGATE UNSATURATED GROUP SUBSTITUTE PHENYLENE GROUP
- PA - (SMSU) SAMSUNG ELECTRONICS CO LTD
  - (SIMH-I) SIM H K
  - (WHAN-I) WHANG D H
- PN - JP9104732 A 19970422 DW199726 C08G16/00 010pp
- IC - C08G16/00 ; C08G61/00 ; C08G65/40 ; C09K11/06 ; H01L33/00 ; H05B33/14
- AB - J09104732 A blue light-emitting polymer is of formula (1) and has an average molecule wt. of 5000-30000. X=1,4-phenylene or group (3); Y=group (4) or (5); Z=1,4-phenylene or group (6); n=1-20; 5-100. In formulae (4) and (5), R1, R2, R3=1-8C alkyl group. Also claimed is a blue light-emitting diode, comprising a positive electrode layer, a negative electrode layer, and a polymer layer in between, the polymer layer being a conjugated polymer.
- ADVANTAGE - This polymer is conjugated with phenylene group-containing backbone, having silicon-containing side chain, and can emit blue light very efficiently for a long time.
- (Dwg.0/2)

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# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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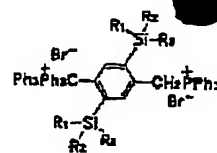
APPLICATION DATE : 01-02-96  
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APPLICANT : CHIN KOKYU;

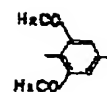
INVENTOR : SHIKU DOSHOKU;

INT.CL. : C08G 16/00 C08G 61/00 C08G 65/40  
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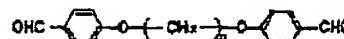
TITLE : BLUE EMITTING POLYMER AND  
LIGHT EMITTING DIODE UTILIZING  
THE SAME



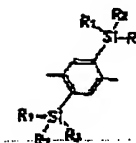
I



V



II



VI



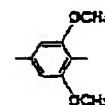
III



VII



IV



VIII

ABSTRACT : PROBLEM TO BE SOLVED: To obtain a blue emitting polymer which fluoresces in the blue region for a long time and has improved processability, heat stability and luminous efficiency by forming a polymer having a main chain comprising phenylene groups which may be replaced by silicon-containing groups.

SOLUTION: For instance, the equal numbers of equivalents of 2,5-bis(trialkylsilyl)-1,4-xylenebis(triphenylphosphonium bromide) represented by formula I (wherein R<sub>1</sub> to R<sub>3</sub> are each a 1-8C alkyl) and 1,3-bis(4-formylphenoxy)alkane are reacted with each other in the presence of sodium ethoxide to obtain a blue emitting polymer represented by formula III (wherein X is a group of formula IV or V; Y is a group of formula VI or VII; Z is a group of formula IV or formula VIII; and (m) is 5-100) and having a weight-average molecular weight of 500-30,000.

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